NCI Program Connections Nanotech Initiative Pre-application Meeting

Dan Gallahan, Ph.D.

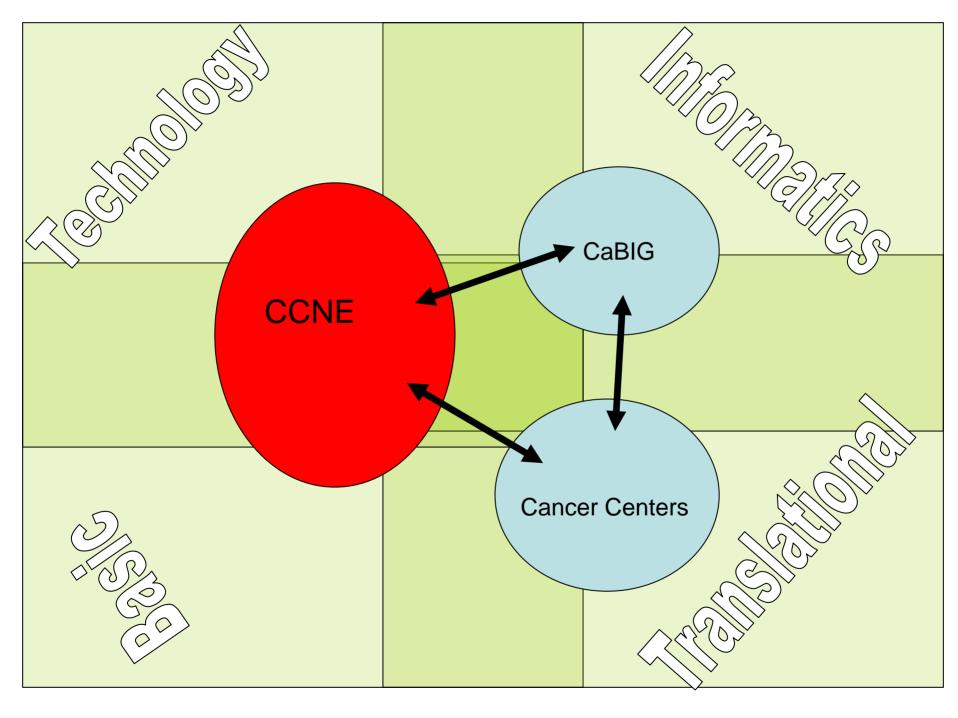
Associate Director

Division Cancer Biology

Outline

- Related NCI Programs
 - Collaborations
 - Resources

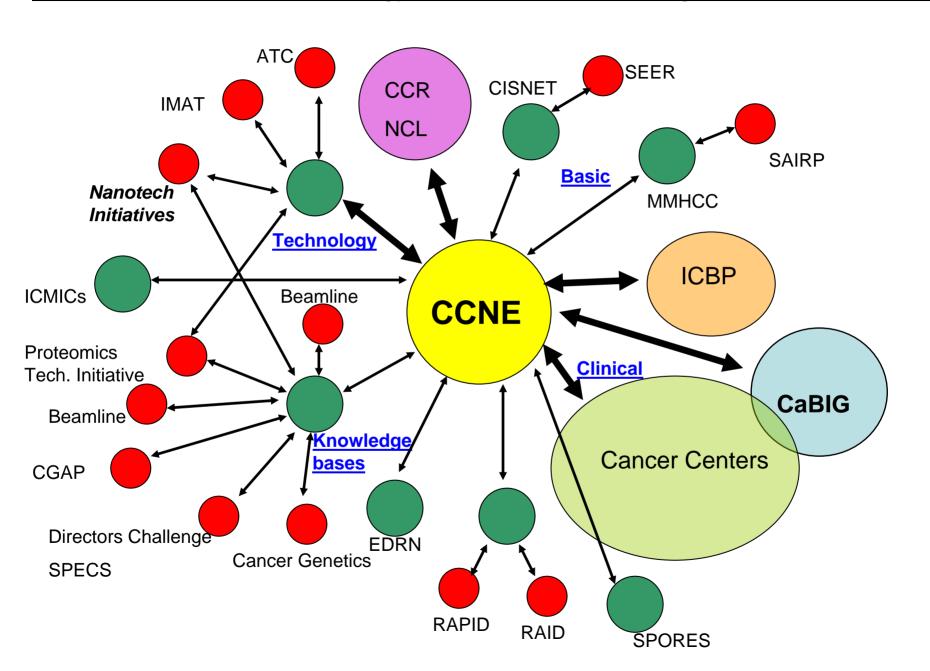
- Other Potential Funding Opportunities
 - Technology
 - Bioinformatics
- Beyond NCI



Web Resources

- www.cancer.gov
- www.nih.gov
- http://otir.nci.nih.gov/index.html
- http://nano.cancer.gov/

NCI Centers for Nanotechnology Excellence (CCNE) Programmatic Interactions



Funding Opportunities

- Industry
 - SBIR
 - Omnibus solicitation
 - Grants
 - Partnerships
- Academia
 - Grants
 - PA, RFA
 - Investigator initiated
 - Various mechanisms
 - Partnerships

Funding opportunities for Small businesses and their partners

- SBIR and STTR programs set aside funding for small businesses alone or in partnership with non-profit organizations
- Funding for R&D with the ultimate goal of commercialization for a wide range of science
- Omnibus solicitation: all NIH, biomedical, healthcare and manufacturing research
- Special Opportunities for specific targeted areas (e.g. nanotechnology) through RFAs and PAs
 - http://grants.nih.gov/grants/funding/sbir_announcements.htm
- Collaboration opportunities (small companies interested in forming collaborations to further develop specific technologies): CORP
- http://grants.nih.gov/grants/funding/corp.htm



- Technology Development
- Innovative Technologies for the Molecular Analysis of Cancer

http://grants1.nih.gov/grants/guide/rfa-files/RFA-CA-05-002.html

 Applications of Emerging Technologies for Cancer Research

http://grants1.nih.gov/grants/guide/rfa-files/RFA-CA-05-003.html

Innovations in Sample Preparation Methodologies http://grants1.nih.gov/grants/guide/rfa-files/RFA-CA-

<u>05-004.htm</u>

Technology and Biocomputing

- Circulating Cells in Cancer Detection
- http://grants1.nih.gov/grants/guide/pa-files/PA-04-035.html
- In Vivo Cancer Imaging Exploratory/Developmental Grants
- http://grants.nih.gov/grants/guide/pa-files/PA-04-045.html
- Phased Application Awards in Cancer Prognosis and Prediction

http://grants1.nih.gov/grants/guide/pa-files/PA-04-102.html



- NOVEL TECHNOLOGIES FOR IN VIVO IMAGING (R21/R33) http://grants1.nih.gov/grants/guide/pa-files/PA-04-095.html
- IN VIVO CELLULAR AND MOLECULAR IMAGING CENTERS (ICMICS) http://grants1.nih.gov/grants/guide/pa-files/PAR-04-069.html

- Bioengineering
- (general: http://www.becon.nih.gov/becon_funding.htm)
- Bioengineering Research Partnerships (large, multidisciplinary) http://grants.nih.gov/grants/guide/pa-files/PAR-04-023.html
- Bioengineering Research Grants (standard "R01"size)
 http://grants.nih.gov//grants/guide/pa-files/PA-02-011.html



- Bioinformatics
- (general: http://www.bisti.nih.gov/)
- National Centers for Biomedical Computing

http://grants1.nih.gov/grants/guide/rfa-files/RFA-RM-04-022.html

 Continued Development and Maintenance of Bioinformatics and Computational Biology Software (includes competitive supplement option)

http://grants1.nih.gov/grants/guide/pa-files/PA-02-141.html

Innovations in Biomedical Computational Science and Technology: phased award http://grants.nih.gov/grants/quide/pa-files/PAR-03-106.html

Roadmap

- general: http://nihroadmap.nih.gov/
- National Technology Centers for Networks and Pathways

http://grants2.nih.gov/grants/guide/rfa-files/RFA-RM-04-019.html

Short Programs for Interdisciplinary Research Training (will be reissued)

http://grants1.nih.gov/grants/guide/rfa-files/RFA-RM-04-008.html

Regional Translational Research Center Planning Grants
 http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-05-008.html

Web Resources

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- http://nano.cancer.gov/
- http://nihroadmap.nih.gov/
- http://grants1.nih.gov/grants/guide/
- http://grants.nih.gov/grants/funding/sbir.htm

Integrative Cancer Biology Program (ICBP)

- A newly established NCI consortium program of independent centers to develop and apply computational and mathematical models to the understanding and management of cancer
 - Exploring current concepts including, mechanisms of gene expression, cancer-related pathology, signaling networks, cell-cell and cell-matrix interactions
- Develop and implement a training and outreach program for a broader and longer impact on this emerging field.
- Three Pillars: Biology-Modeling-Education

Integrative Cancer Biology Program

Cancer Cell

Initiation

Progression

Metastasis













(OSU) - epigenetics, gene silencing

(DFCI) - kinase, signaling, high throughput biology

(CWRU)- Mismatch repair, drug/radiation effects, therapy

(MIT) – signaling, mouse models mitogenesis, DNA repair, progression

(<u>Duke</u>) - signaling, cell fate, proliferation mouse models

(Stanford) – progression, lymphoma, gene expression, clinical data

(LBNL)— signaling, progression, microenvironment, targeted therapies

(Vanderbilt) - invasion, metastasis, angiogenesis, microenvironment

(MGH) - angiogenesis, invasion 3D tumor modeling



Goals of the ICBP

- Establish a forum for the field of Cancer Integrative Biology
 - Using ICBP coordinating committee and planned workshops
- Dissemination and enlightenment of computational or mathematical models of cancer and associated data.
 Encouraging the incorporation of these models in cancer research
 - Through individual outreach programs, joint enterprises and CaBIG
- Establishment and coordination of training and outreach programs for the field of Integrative Biology
 - Through grantees support institutions and joint programs
- A vehicle for the scientific community to articulate to the NCI, opportunities and needs for resources in integrative cancer biology
 - Listening to ICBP grantees, coordinating committee and larger forums